IN THE CLAIMS:

This listing of claims replaces all prior versions, and listings, of the claims in the application:

1. – 16. (Canceled)

17. (Currently Amended) A method of forming a semiconductor microstructure, the method comprising:

positioning a substrate containing an initial dielectric layer in a process chamber, the initial dielectric layer being at least one selected from a group consisting of a first oxide layer and a high-k layer;

flowing a process gas comprising an oxygen-containing gas in the process chamber; and

forming ~~an~~ a second oxide layer with high thickness uniformity, the second oxide layer being formed between the initial dielectric layer and the substrate in a self-limiting oxidation process, wherein the partial pressure of the oxygen-containing gas in the process chamber is less than about 50 Torr.

18. (Canceled)

19. (Currently Amended) The method according to claim 18, wherein the ~~oxide layer~~ at least one of the first and second oxide layers comprises SiO_2.

20. – 21. (Canceled)

22. (Currently Amended) The method according to ~~claim 18~~ claim 17, wherein the high-k layer comprises at least one of HfO_2, ZrO_2, Ta_2O_5, TiO_2, Al_2O_3, and HfSiO.

23. (Original) The method according to claim 17, wherein the process chamber pressure is less than about 40 Torr.

24. (Original) The method according to claim 17, wherein the oxygen-containing gas comprises O_2.

25. (Original) The method according to claim 24, wherein the process gas further comprises N_2.

26. (Original) The method according to claim 17, wherein the process gas further comprises an inert gas.

27. (Original) The method according to claim 26, wherein the inert gas comprises at least one of Ar, He, Ne, Kr, Xe, and N_2.

28. (Original) The method according to claim 17, wherein the substrate temperature is between about 500° C and about 1000° C.

29. (Original) The method according to claim 17, wherein the substrate temperature is about 700°C.

30. (Original) The method according to claim 17, wherein the process chamber pressure is less than atmospheric pressure.

31. (Original) The method according to claim 17, wherein the process chamber pressure is less than about 50 Torr.

32. – 54. (Canceled)